

WHISTLING RIDGE ENERGY LLC
JASON SPADARO
JULY 14, 2010 LETTER FROM SDS TO WDFW
EXHIBIT NO. 1.03r



SDS Lumber Company

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July 14, 2010

Travis Nelson
Washington Department of Fish and Wildlife
600 Capitol Way North
Olympia, WA 98501-1091

RE: Whistling Ridge Wind Energy Project

Dear Mr. Nelson;

Travis

As you are aware, SDS Lumber Company is landowner/developer of the Whistling Ridge Energy Project (WREP) in Skamania County. As you are also aware, the Washington Department of Fish and Wildlife (WDFW) Wind Power Guidelines were created "to provide consistent statewide guidance for the development of land-based wind energy projects that avoid, minimize and mitigate impacts to fish and wildlife habitats in Washington State"¹. In working on WREP, I have appreciated the opportunity to engage constructively with WDFW regarding application of the Wind Power Guidelines to WREP and look forward to continuing these discussions.

As previously confirmed by Mr. Ritter in his January 19, 2010 letter, we believe that our efforts, with the valuable input of WDFW, are in compliance with the WDFW Wind Power Guidelines in each of the key areas:

1. Baseline monitoring studies to avoid and minimize bird and bat impacts.

With avian studies beginning in 2003, WREP has conducted more pre-project assessment work and baseline wildlife survey data than any other project previously proposed. After incorporating the comments of WDFW regarding additional survey efforts and areas of emphasis into our studies, we believe our wildlife surveys and the collective body of information related to the WREP constitutes "best available science" for our project area. We believe this science shows that the project would propose no significant threats to wildlife resources.

Our multi-year baseline monitoring efforts are summarized in memoranda dated May 24, 2010 by WEST, Inc and May 24, 2010 by Turnstone Environmental Consultants and attached hereto for your reference.

2. Minimization of Wildlife Impacts

WREP has been designed to minimize wildlife impacts in manners recommended by the Wind Power Guidelines. For example, the project is proposed in previously disturbed lands, utilizes existing transmission and transportation corridors and minimizes use of new, overhead collector lines.

¹ Washington Department of Fish and Wildlife Wind Power Guidelines, April, 2009, p.1

3. Operational Monitoring

As previously indicated, WREP is very willing to cooperate with WDFW in establishment of post-construction operational monitoring surveys and the formation of a Technical Advisory Committee that includes stakeholders as recommended under the Wind Power Guidelines.

4. Habitat Mitigation

WREP has complied with a number of the site guidance principles recommended in the voluntary Wind Power Guidelines, including locating the project on previously disturbed lands, near existing transmission corridors and with avoidance of high value habitats.

Given the disturbed nature of the Project site, along with the working forest status of the property and current low habitat value, we are not certain that habitat mitigation is required at all under the Wind Power Guidelines for the 56 acres of forested land that will be converted as a result of the project. Nonetheless, WREP desires to comprehensively mitigate other potential wildlife impacts as identified in the DEIS, in addition to habitat loss, and achieve with WDFW a mutually beneficial, long-term habitat enhancement outcome from the project. Section 5.2.B, the Wind Power Guidelines state the following "Criteria for Mitigation by Acquisition of Replacement Habitat":

"In each of the mitigation categories listed below,² the criteria indicate that replacement habitat should be negotiated in consultation with WDFW and the permitting authority and include the following considerations:

- Like-kind (e.g., shrub-steppe for shrub-steppe; forested for forested, grassland for grassland) and/or of equal or higher habitat value than the impacted areas, noting that an alternative ratio may be negotiated for replacement habitat that differs from impacted habitat;
- Given legal protection (through acquisition in fee, a conservation easement, or other enforceable means);
- Protected from degradation, including development, for the life of the project, to improve habitat function and value over time;
- In the same geographic region as the impacted habitat;
- At some risk of development or habitat degradation and the mitigation results in a net habitat benefit." [Footnote added]

To meet the objective of comprehensively mitigating all potential habitat and wildlife impacts of the Project, WREP proposes to convey Fee Simple interest to WDFW, or a mutually agreeable land trust organization, in approximately 100 acres of Oak woodland and coniferous forest habitat in Klickitat County. Again, this proposed conveyance is intended to satisfy the direction from the Wind Power Guidelines and constitute full and complete mitigation for loss of habitat and all potential wildlife impacts that may result from the WREP. The proposed property is located in a portion of the SE ¼ of Section 10, Township 3 North, Range 12 East and more fully shown in the attached regional map and parcel, and ownership map for your reference.

We believe this property is unique and highly valuable to WDFW and the public interest, and more than satisfied the mitigation criteria quoted above, for the following reasons:

- ❖ The property is forested habitat in the same geographical region as the Project site (reference attached WREP vicinity map), and is characterized by Oregon white oak

² For commercial forest land, no mitigation ratios or requirements are proposed, but instead, "consultation" is anticipated between the applicant and WDFW.

woodlands with some areas of mixed Douglas-fir/ Ponderosa pine/Oregon white oak woodlands. The dominant species is Oregon White Oak. This Oak Woodland habitat is a statewide priority habitat under the WDFW's Priority Habitats and Species ("PHS") program. Protection of this habitat provides significantly higher value habitat than the habitat being mitigated for.

The following excerpt from the executive summary of "WDFW's Management Recommendations for Washington's Priority Habitats: Oregon white oak woodlands"³ describes the values and characteristics of this habitat:

"Oregon white oak (Quercus garryana) is Washington's only native oak. Although limited and declining, oaks and their associated floras comprise distinct woodland ecosystems. The various plant communities and stand age mixtures within oak forests provide valuable habitat that contributes to wildlife diversity statewide. In conjunction with other forest types, oak woodlands provide a mix of feeding, resting, and breeding habitat for many wildlife species. More than 200 vertebrate and a profusion of invertebrate species use Washington's oak woodlands. Some species occur in especially high densities, whereas others are not typically found in Washington. Oaks provide habitat for species that are state listed as Sensitive, Threatened, Endangered, or candidates for these listings.

Oregon white oaks occur within the Puget Trough, Washington's south-central counties, along the Columbia Gorge, and northward along the east side of the Cascade range. Some small stands and relict groves can be found in the San Juan Islands, along Hood Canal, and in the Willapa Hills. Oregon white oaks are generally restricted to lower elevations, drier areas, and areas with historically limited conifer competition. West of the Cascades, oaks are found within the Western Hemlock Forest Zone and often occupy the narrow sub-zone between prairies and conifer forests. East of the Cascades, oaks are found within the Ponderosa Pine Forest Zone and occupy the transition zone between conifers and shrub-steppe. The Columbia Gorge is a transitional area where a mixture of east and west forest plant constituents can be found. Oregon white oaks tolerate an array of soil types but flourish in the deep loams of southwestern Washington. This tree species reproduces by seed and sprout.

Priority Oregon white oak woodlands are stands of pure oak or oak/conifer associations where canopy coverage of the oak component of the stand is 25%; or where total canopy coverage of the stand is <25%, but oak accounts for at least 50% of the canopy coverage present. The latter is often referred to as an oak savanna. In non-urbanized areas west of the Cascades, priority oak habitat is stands 0.4 ha (1 ac) in size. East of the Cascades, priority oak habitat is stands 2 ha (5 ac) in size. In urban or urbanizing areas, single oaks, or stands of oaks <0.4 ha (1 ac), may also be considered priority habitat when found to be particularly valuable to fish and wildlife (i.e., they contain many cavities, have a large diameter at breast height [dbh], are used by priority species, or have a large canopy).

Oregon white oak woodlands are used by an abundance of mammals, birds, reptiles, and amphibians. Many invertebrates, including various moths, butterflies, gall wasps, and spiders, are found exclusively in

³ Larsen, E.M., and J.T. Morgan. 1998. Management recommendations for Washington's priority habitats: Oregon white oak woodlands. Wash. Dept. Fish and Wildl., Olympia. 37pp.

association with this oak species. Oak/conifer associations provide contiguous aerial pathways for animals such as the State Threatened western gray squirrel, and they provide important roosting, nesting, and feeding habitat for wild turkeys and other birds and mammals. Dead oaks and dead portions of live oaks harbor insect populations and provide nesting cavities. Acorns, oak leaves, fungi, and insects provide food. Some birds, such as the Nashville warbler, exhibit unusually high breeding densities in oak. Oaks in Washington may play a critical role in the conservation of neotropical migrant birds that migrate through, or nest in, Oregon white oak woodlands.

- ❖ The WDFW Priority Habitats & Species database confirms the presence of several upland priority species in the nearby vicinity of the proposed mitigation parcel. These documented sites along with other upland wildlife species that we have been observed on or near the proposed mitigation parcel include the following:

- Western Gray Squirrel
- Black tail deer
- American Bald Eagle
- Golden Eagle
- Western Bluebird
- California Kingsnake
- Merriam's Turkey

Attached for your reference is a map showing documented wildlife sites from the WDFW Priority Habitats and Species database and the proposed mitigation parcel.

Also attached is Figure 9.0 of the WDFW Final Western Gray Squirrel Recovery Plan showing results and distribution of western gray squirrel surveys in Klickitat County between 1994-2004, with the approximate location of the SDS proposed mitigation parcel indicated. The proposed mitigation parcel is shown to be in suitable habitat and in one of several areas throughout Klickitat County of concentrated Western Gray Squirrel activity.

- ❖ The proposed mitigation parcel includes the fish-bearing Silva Creek, a tributary to the Klickitat River whose confluence is a few miles below at the Fisher Hill Bridge and historic Yakama Nation tribal fishing sites. The Klickitat River is habitat for Federally Threatened Lower Columbia River Chinook salmon and other salmon species as well as Federally Threatened Lower Columbia River steelhead and bull trout. Silva Creek is habitat for aquatic species and a water quality contributor for these species in the Klickitat and Columbia Rivers.
- ❖ The proposed mitigation parcel is currently zoned for 5 acre minimum lot size under Klickitat County zoning ordinances. The parcel is at substantial risk of development. Neighboring properties have been subdivided into 5 acre rural home site parcels as the attached parcel viewer and ownership map indicates. SDS providing this parcel in mitigation will establish habitat protection in a critical area and prevent additional loss and fragmentation of the Oak woodland priority habitat. Given the surrounding development activity, the mitigation parcel will result in substantial net benefit for forested habitat.
- ❖ The proposed mitigation parcel is adjacent to 40 acres of State of Washington Department of Natural Resources (DNR) property and in the vicinity of other DNR ownership as

July 15, 2010

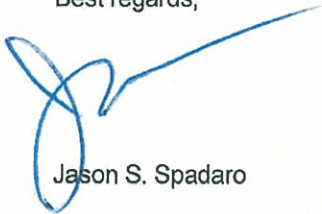
depicted in the attached parcel viewer and ownership map. SDS providing this parcel in mitigation complements existing public land ownership in the area and contributes further to critical habitat protection.

Included with the attachments to this letter are several pages of photographs of the proposed mitigation parcel.

We hope you agree that our efforts on Whistling Ridge Energy Project are consistent with the Wind Power Guidelines and we look forward to continuing our constructive dialogue and working with you to further apply the Wind Power Guidelines in mitigation and post construction monitoring. We would appreciate your confirmation that this mitigation parcel addresses both the conversion acreages as well as comprehensively mitigating for all potential wildlife and habitat impacts as identified in the DEIS.

We look forward to your comments on the Draft Environmental Impact Statement.

Best regards,

A handwritten signature in blue ink, appearing to read "Jason S. Spadaro", with a large loop at the end.

Attachments: Turnstone Memo, May 24, 2010, 6 pages
WEST Memo, May 24, 2010, 5 pages
Klickitat County parcel viewer & DNR ownership on aerial photograph, 1 page
Whistling Ridge Energy Project vicinity map, 1 page
WDFW PHS data & SDS ownership parcel on map, 1 page
Exhibit 9.0 Western Gray Squirrel Recovery Plan, 2 pages
Photographs of SDS proposed mitigation parcel, 4 pages

Cc: Lisa Veneroso, WDFW
Lynette Wickett, WDFW



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MEMO

To: Jason Spadaro, SDS Lumber
From: Jeff Reams, Turnstone.
Subject: Response to WDFW concerns over impacts to spotted owls, northern goshawk and squirrels at Whistling Ridge
Date: May 24, 2010

This memo is to summarize the results of bird and squirrel studies conducted at the Whistling Ridge Wind Resource Area (WRWRA) in Skamania County, Washington.

Northern Spotted Owls

Turnstone surveyed Whistling Ridge Wind Resource Area, Mill and Moss Creek Activity Centers starting in 2003. The objective at the time of the initial survey effort was to conduct a one year survey effort consisting of six site visits. This survey was only valid for one year. The project was delayed and an additional survey effort was necessary. Turnstone then conducted an additional survey effort in 2004 consisting of three site visits. Only barred owls were detected during the two year survey visits conducted in 2003 and 2004. Surveys are only valid for two years before additional surveys are required. SDS Lumber retained the services of Turnstone to conduct a two year survey for the spotted owl starting in 2008. Three surveys were conducted in 2008 with again, only barred owls detected. While conducting the surveys, it was brought to our attention that the US Fish and Wildlife Service was in the process of proposing revisions to the NSO survey protocol in order to address barred owl and spotted owl interactions. Turnstone contacted the US Fish and Wildlife Service to get a better understanding of the revisions to the current NSO survey protocol that was under consideration. The proposed revisions are scheduled to become available to the public in 2010. We contacted one of the major authors of the proposed barred owl revisions to the NSO protocol (Jim Thrailkill). We were informed that we should continue the current protocol but were encouraged to consider new survey techniques that were being proposed in the presence of barred owls. One of the proposed revisions was to visit core NSO areas in the day time to look for spotted owls that might not respond in the presence of barred owls. Turnstone used this potential revision and conducted three day site visits in addition to the current protocol parameters. The Applicant conducted extensive discussions with Ken Berg, USFWS Manager to confirm sufficiency of the protocols and data.

Turnstone has completed all required night visits and walked the activity centers during the day on three separate occasions. ***Turnstone biologists found no spotted owls while conducting the three day hikes in the two historical cores nor were any spotted owls detected while night calling the provincial range three times at Mill and Moss Creek Activity Centers.***

For the purposes of this project, potentially suitable spotted owl habitat was determined to be coniferous stands with average tree DBH greater than 12 inches and canopy closure of at least 60% or greater. Cut areas or young coniferous plantations that did not meet the minimum DBH or canopy closure parameters were excluded from the survey effort. The resulting designated survey areas would contain nesting roosting, foraging and, dispersal habitat.

Turnstone conducted spotted owl surveys within and adjacent to properties managed by SDS and cooperating adjacent landowners. Surveys were conducted in all potentially suitable habitats within the 1.8 mile provincial home range radius of the proposed project area. To determine the potential spotted owl survey areas, the proposed turbine alignments were buffered out to a 1.8 mile radius.

This created a large polygon of potential survey area that included 14,901 acres of land area. This polygon did not contain a contiguous area of potentially suitable spotted owl habitat but is comprised of a patchwork of stands containing suitable habitat.

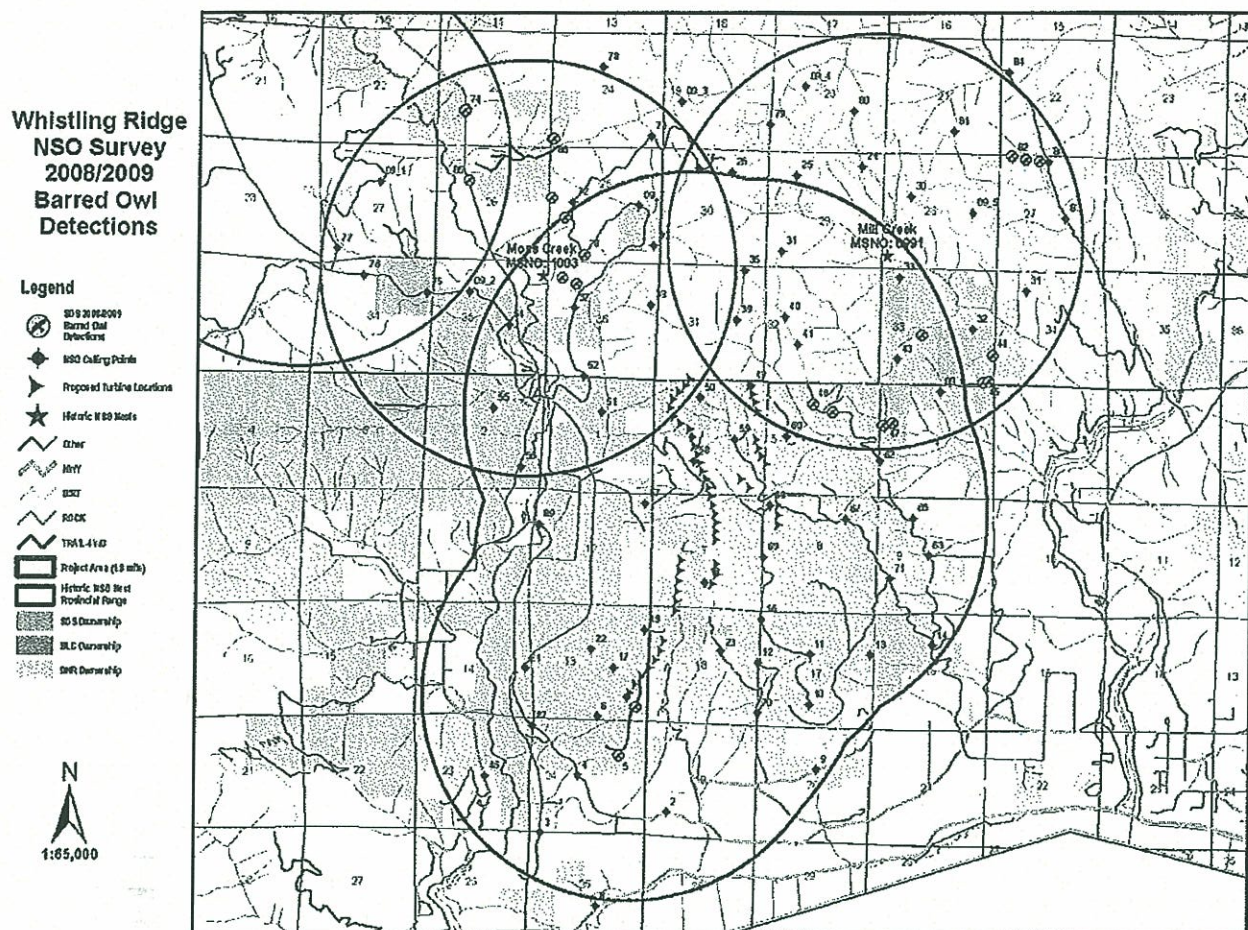
The potential survey area polygon intersected 2 historic spotted owl activity centers (1.8 mile radius circles) located on public land north of the project area. The nest cores of these historic activity centers reside on land managed by the Washington Department of Natural Resources (WDNR) and the U.S. Forest Service (USFS). The activity center areas intersect (1.8 mile radius provincial range), the northern reach of the designated proposed wind energy project area. The Mill Creek activity center designated in 1992 and was last considered to have spotted owls present in 2000. The Moss Creek nest core was located and established in 1994 and was last considered to have spotted owls present in 2002. These two historic cores are adjacent to one another and overlap by approximately 15%. Due to the adjacency with the historic spotted owl activity centers it was decided to survey potential suitable habitat within the historic nest cores in addition to the survey areas determined by 1.8 mile buffer of the proposed turbine alignments. This added an additional 7,222 acres of area that was included in the overall potential survey area.

NCASI is another organization that has been monitoring the Moss and Mill Creek Activity Centers as far back as 2002. These core areas are visited at least 3 times yearly and again had no observations of spotted owls in 2009.

Table showing the history of Barred and Spotted Owls at Moss and Mill Creek Activity Centers

Year	Mill Creek NSO Core Survey Results		Moss Creek NSO Core Survey Results	
	Spotted Owl	Barred Owl	Spotted Owl	Barred Owl
2009	No response	Present	No response	Present
2008	No response	Present	No response	Present
2007	No response	Present	No response	Male observed
2006	No response	Present	No response	Male observed
2005	No response	Present	No response	Pair observed
2004	No response	Pair observed	No response	Pair with juvenile observed
2003	No response	None observed	No response	Pair observed
2002	No response	Male observed	Male	Pair with juvenile observed
2001	No response	None observed	No response	Pair observed
2000	Non-nesting pair observed	None observed	Reproducing pair with 1 juvenile	None observed
1999	Female observed	None observed	Reproducing pair with 1 juvenile	None observed
1998	Non-nesting pair observed	Female observed	Reproducing pair with 2 juveniles	None observed
1997	Non-nesting pair observed	None observed	No response	None observed
1996	Reproducing pair with 2 juveniles	N/A	Reproducing pair with 3 juveniles	N/A
1995	No response	N/A	Reproducing pair	N/A
1994	Reproducing pair with 2 juveniles	N/A	Reproducing pair	N/A

Turnstone has enclosed a map depicting barred owl response locations in the 2008/2009 field season. These responses were recorded while soliciting responses from spotted owls.



Northern Goshawks

Turnstone conducted two surveys for northern goshawks in 2003 during the breeding, incubating and fledging season and then resumed the survey effort in 2008 and continued to survey in 2009. Turnstone did not conduct breeding goshawk surveys in 2004 or 2006. It is our understanding that avian use surveys were conducted during this time. The maps provided to us show areas of observation in clear-cut areas. The 2004 observation was in the fall when goshawks can very well be migrating through the area. We have conducted species-specific protocol surveys in the area close to the 2004 and 2006 observation locations with no detections.

These surveys covered approximately 1,093 acres of potential goshawk habitat. The potential survey area for the northern goshawk was determined by protocol parameters, consultation with biologists from the Washington Department of Fish and Wildlife and GIS analysis. Survey protocol methodology was outlined in the United States Forest Service document, "*Northern Goshawk Inventory and Monitoring Technical Guide, July 2006.*"

In consultation with wildlife agencies, we determined that the 'Broadcast Acoustical Survey' methodology outlined in this protocol would best suit the needs of the project. This approach requires a one or a two year survey effort determined by the characteristics of the site and the

project. Due to the size of the goshawk survey area, we determined that a 2-year survey effort would be needed.

To determine the area that would require goshawk surveys, a GIS analysis was executed using protocol parameters and available data. The proposed wind energy project infrastructure was buffered out 150 feet to establish a work area that would likely be permanently disturbed. Then an additional 2,624 feet, per protocol recommendations, was added to this initial buffer to establish an area that was considered the potential northern goshawk survey area. Within this area, GIS data was analyzed to identify stands of conifers that may contain suitable habitat structure based on an age class of greater than 25 years and average tree DBH of at least 12 inches. The resulting suitable habitat areas, or polygons, were then overlaid on current aerial photography (2006), to verify that the stands were still intact. This exercise created an initial potential survey area of 3,013 acres of land area. Of this area 1,093 acres was determined to be forested and contain the habitat characteristics needed to support goshawks. Initial calling points and survey transects were then established in GIS to adequately cover the 1,093 acres of potential goshawk habitat that would require survey. During the first goshawk survey field visit additional refinements were made to the goshawk survey areas based on ground-truthing of the potential habitat that was delineated out in GIS.

Turnstone conducted protocol northern goshawk surveys on SDS properties during the 2008 goshawk survey window. Calling stations were strategically placed throughout the potential survey area, which is all suitable habitat within 2,624 feet of the designated work areas. Turnstone completed two protocol site visits to 136 calling stations during the 2008 goshawk survey season. Turnstone followed the same 2008 protocol parameters in 2009. No northern goshawk responses were documented during either of the two site visits in 2008. Turnstone completed all general broadcast acoustic and intensive stand search surveys in 2009 with no responses. Survey dates and other incidental raptor observations are summarized below.

Northern goshawk survey results summary 2008.

Visit #	# of Stations	Date	N. Goshawk Response	Other Raptors Observed
1	14	6/23	None	OSPR (1) near station 46 RTHA (1) near station 46
1	21	6/24	None	RTHA (1) near station 36
1	22	6/25	None	
1	25	6/26	None	
1	25	6/27	None	
1	11	7/15	None	TUVU (1) near station 62
1	15	7/16	None	COHA (1) near station 26
1	3	7/28	None	
2	7	7/28	None	
2	14	7/30	None	RTHA (1) near station 67
2	22	7/31	None	TUVU (1) near station 95 TUVU (1) near station 78
2	16	8/01	None	
2	23	8/04	None	RTHA (1) near station 22
2	25	8/05	None	SSHA (1) near station 9 TUVU (8) near station 12
2	19	8/06	None	
2	10	8/07	None	
COHA = Cooper's hawk (<i>Accipiter cooperii</i>) OSPR = Osprey (<i>Pandion haliaetus</i>) RTHA = Red-tailed hawk (<i>Buteo jamaicensis</i>)				

Visit #	# of Stations	Date	N. Goshawk Response	Other Raptors Observed
SSHA = Sharp-shinned hawk (<i>Accipiter striatus</i>)				
TUVU = Turkey vulture (<i>Cathartes aura</i>)				

Northern goshawk broadcast acoustic survey results summary 2009

Visit #	# of Stations	Date	N. Goshawk Response	Other Raptors Observed
1	11	06/24/09	None	BAEA (1) near station 57
1	34	06/25/09	None	RTHA (2) near station 124 & 127
1	40	06/26/09	None	TUVU (2) near station 28 & 36, Unk. Owl (likely pygmy or saw-whet) at station G13
1	40	06/29/09	None	TUVU (3) near station 68 & 90 & 91
1	11	06/30/09	None	RTHA (1) near station 60.5
2	33	07/09/09	None	None observed
2	46	07/10/09	None	TUVU (1) near station 73
2	27	07/15/09	None	TUVU (2) near station 48 & 46
2	30	07/16/09	None	None observed
BAEA = Bald Eagle (<i>Haliaeetus leucocephalus</i>) COHA = Cooper's hawk (<i>Accipiter cooperii</i>) OSPR = Osprey (<i>Pandion haliaetus</i>) RTHA = Red-tailed hawk (<i>Buteo jamaicensis</i>) SSHA = Sharp-shinned hawk (<i>Accipiter striatus</i>) TUVU = Turkey vulture (<i>Cathartes aura</i>)				

Based upon comments from and consultation with WDFW, the 2008 habitat was analyzed and re-delineated. Management activities occurred in the "Cedar Swamp" area between 2003 and 2008. Areas falling outside of the minimum habitat requirements and were dropped from the survey effort in 2008/2009 survey seasons. Turnstone has provided a map showing the goshawk survey areas and the "Cedar Swamp" location. No northern goshawks visuals or responses were ever recorded by Turnstone.

Turnstone conducted surveys on two separate occasions in 2009 at the same calling stations that were established in 2008. Additional survey areas that were added after the 2008 goshawk survey season were surveyed in 2009 using an intensive one year survey methodology laid out in the protocol and was approved by WDFW. Again, no northern goshawks were detected based on the protocols recommended and approved by WDFW.

Western Gray Squirrel

Western gray squirrel surveys began in fall of 2003 and 2008. An early spring survey was also completed on the suggestion of Bill Weiler (WDFW field biologist), based on a concern that that activity levels may be higher during that season. This survey was conducted in early March 2009.

For the purposes of this project, potentially suitable western gray squirrel potential habitat was defined as any coniferous, deciduous or mixed stands of trees that contained trees with an average diameter at breast height (DBH) of at least 10 inches or greater

Turnstone conducted western gray squirrel nest surveys on approximately 738 acres of potentially suitable habitat within the project area. The survey methodology was determined in consultation with a WDFW staff biologist. Within the project area, potential gray squirrel survey areas were determined by using GIS analysis and ground-truthing. The GIS analysis was used to determine areas of potentially suitable squirrel habitat prior to conducting field visits and the ground-truthing was used to validate and finalize the initial GIS analysis.

Based on consultations with WDFW, the following survey protocols were established: Western gray squirrel nest surveys were required in any areas where project activities would remove potential western gray squirrel habitat or possibly impact habitat due to structural modification, including stand thinning. Surveys were required on all habitat that would be altered and continue 400 feet into unaltered habitat. To determine the areas to be surveyed, the proposed energy project infrastructure (primarily proposed wind turbines), was buffered out 150 feet (150 foot radius) to establish a work zone. Then an additional 500 feet of buffer was added, to encompass any areas that may need to be altered due to obstructions (tall trees) within wind corridors of the proposed turbines. Finally an additional 400 feet was buffered onto this distance to satisfy the guideline to survey 400 feet into unaltered habitat. Adding all buffers totaled 1,050 foot radius of area surveyed. The overall area delineated out by using this buffering process was equal to 1,420 acres. Within this area 738 acres was determined to be potentially suitable western gray squirrel habitat.

The survey area was broken up into smaller discrete units to facilitate an efficient survey effort by Turnstone biologists. The discrete units were referred to as polygons and each got a unique identifier.

Walk-through surveys using serpentine transects were conducted in all conifer, deciduous, and mixed stands within the designated survey area that met the minimum DBH threshold of 10 inches. Surveyors were looking for squirrel nests and squirrel individuals of any species but focusing their attention on evidence of the western gray squirrel. Transects were oriented to parallel the topographic features of the survey polygons when possible. All transect were laid out systematically to ensure that they were evenly spaced and located close enough together so that no habitat areas were excluded from the survey.

Very few oak trees were observed in the project area. The few that were observed within the survey boundaries were small (less than 20 feet tall), stunted and growing in openings on exposed rocky slopes in shallow soils.

Three field visits were made to the western gray squirrel survey areas by a total of three different biologists over a 12 day period. These visits together constituted a complete round of surveys to cover all potential habitat within the survey polygons. During the round of surveys, efforts were made to determine if western gray squirrels were currently using or had historically used any potential habitat within the potential survey area by conducting systematic nest search surveys. The potential survey area was determined using guidelines provided by WDFW staff biologists and GIS analysis. Western gray squirrel surveys were required on any potential western gray squirrel habitat that would be altered by the proposed energy project and include surveys a minimum of 400 feet into adjacent undisturbed potentially suitable squirrel habitat (per WDFW guidelines).

All 26 survey polygons were examined and a formal nest search for western gray squirrel nest structures was performed using guidelines outlined by the protocol, *Surveys for western gray squirrel nests on sites harvested under approved forest practice guidelines, WDFW 2004*. During these visits, no western gray squirrels or western gray squirrel nest structures were observed.



Western EcoSystems Technology, Inc. 2003 Central Ave., Cheyenne, WY 82001
Phone: 307.634.1756 Fax: 307.637.6981 Web site: www.west-inc.com

MEMO

To: Jason Spadaro, SDS Lumber
From: Greg Johnson, WEST, Inc.
Subject: Response to WDFW concerns over impacts to birds and bats at Whistling Ridge
Date: May 24, 2010

The purpose of this memo is to summarize the results of bird and bat studies conducted at the Whistling Ridge Wind Resource Area (WRWRA) in Skamania County, Washington, and contrast these results to other studies of Wind Resource Areas in the Pacific Northwest as well as the U.S. as a whole.

Birds

In the fall of 2004 and summer of 2006, WEST, Inc. conducted avian use surveys of the Whistling Ridge Wind Resource Area (WRWRA). Additional avian use surveys were conducted during the winter of 2008/2009 and spring of 2009. Therefore, we now have avian use data for the WRWRA that covers all four seasons. Rigorous impact analyses for proposed wind energy facilities typically require data from all seasons.

Based on these data, the annual mean raptor use at the WRWRA (0.28 raptors/plot/20-min survey) was compared with other Wind Resource Areas (WRA) that implemented similar protocols and had data for three or four seasons. Similar studies were conducted at 36 other WRA. The annual mean raptor use at these WRA ranged from 0.09 to 2.34 raptors/plot/20-min survey (Figure 1). Based on the results from these WRA, a ranking of seasonal raptor mean use was developed as: low (0 – 0.5 raptors/plot/20-min survey); low to moderate (0.5 – 1.0); moderate (1.0 – 2.0); high (2.0 – 3.0); and very high (> 3.0). Under this ranking, mean raptor use (number of raptors divided by the number of 800-m plots and the total number of surveys) at the WRWRA is considered low, ranking 29th when compared to the 36 other wind-energy facilities (Figure 1).

We also examined use of the WRWRA by all bird species combined compared to similar data collected at 24 other WRA in the Pacific Northwest. Mean overall bird use at the WRWRA was 9.3 birds/800-m radius plot/20-minute survey. Mean overall bird use for the other 24 WRAs has ranged from 5-23.6. The WRWRA ranks 19th compared to these 24 other WRA (Figure 2).

Based on all of the avian use data collected for this project, it does not appear that construction of a wind energy facility at the WRWRA would result in higher risk to birds than other WRA. In fact, the data show that the WRWRA actually receives lower use by raptors as well as all bird species combined compared to most other WRAs in the U.S., as

well as in the Pacific Northwest. Although similar data have not been collected in habitats similar to those at Whistling Ridge, the data have been collected in a variety of habitat types, including grasslands, shrub steppe, and croplands in both the western and Midwestern U.S. To date, the relationship between raptor use and mortality has been fairly consistent across habitats and locations, and these data represent the best available science for predicting avian impacts at Whistling Ridge.

Bats

Three years of bat acoustical data have been collected at the WRWRA. From August 20 through October 21, 2007, three Anabat stations (2 ground and one elevated on a meteorological [met] tower) were established in the study area to record bat echolocation calls. The mean number of bat passes per detector per night was 7.91, which is relatively low compared to many WRAs that had relatively high bat mortality. A second bat acoustic study was conducted at the WRWRA from July 3 to October 7, 2008 using four detectors placed on the ground. During that study, a mean of 148.34 bat passes per detector-night was recorded across all stations. In 2009, bat acoustical surveys were conducted using three bat detectors elevated on met towers from June 4 to October 25. In 2009, bat activity was again relatively low as a mean of 8.09 bat passes per detector-night was recorded.

In 2007, bat activity was monitored at two ground stations and one elevated station on a met tower. These stations were located in upland habitats characteristic of proposed turbine locations. Bat activity levels were similar to those measured in 2009, as the mean number of bat passes per detector night was 7.91. In 2008, Anabat surveys were conducted at four ground stations from July 3 to October 7. Two stations were placed in clear cuts, one was placed along a logging road through a forest, and the fourth was placed adjacent to a pond in the study area to assess levels of bat activity and composition of primarily breeding bats in the project area. For all four units combined, a mean of 148.34 bat passes per detector-night was recorded. However, 80.7% of all calls were recorded at the detector set on the logging road, which was likely used as a travel corridor by bats and was not representative of cleared areas where turbines would be placed. The detector placed near the pond also recorded relatively high activity levels (178.03 bat passes/detector night). Bat activity at the two stations placed in clear cuts comprised only 19.1% of all bat passes recorded during the study (14.30 and 73.76 bat passes/detector night, respectively).

The data collected in 2009 were collected entirely at elevated met tower locations, which were most representative of proposed turbine locations. In addition, the three units were elevated on the met towers to a height of 45 m, within the rotor swept zone. Until recently, based on a limited number of studies (5), it was assumed that bat call rate data from Anabat units placed on the ground was roughly correlated with bat mortality, and could be used as a predictor of bat fatality. However, two recently-published studies have shown that bat activity data from ground-based detectors is apparently not strongly correlated with bat fatality, at least not in all cases. A recent study in Alberta found that bat activity levels determined from Anabat units raised on turbines were more closely

related to bat fatality rates, and that there was no clear relationship between bat activity recorded at ground level and bat fatality rates (Baerwald and Barclay 2009). A similar study in Europe compared ground and raised Anabat detectors and concluded that assessing bat activity levels from ground level detectors only can be misleading, particularly when surveying high-flying species that are most likely to be at risk from wind energy development (Collins and Jones 2009). Therefore, the data collected in 2009 likely provide the best data for assessing risk to bats in the project area. Based on results of the 2009 study, it does not appear that construction of a wind energy facility at the WRWRA would result in high bat mortality levels. However, no data on bat mortality levels associated with wind energy developments in western coniferous forests are available to help predict risk to bats at the WRWRA. Bat fatality patterns may differ from those in open habitats as well as in eastern deciduous forests. Post-construction monitoring of the Whistling Ridge wind energy facility would provide valuable data on bat collision mortality in this environment that would be useful for assessing risk to bats of future proposed wind energy developments in western coniferous forests.

Literature Cited

- Baerwald, E.F. and R.M.R. Barclay. 2009. Geographic variation in activity and fatality of migratory bats at wind energy facilities. *Journal of Mammalogy* 90(6): 1341–1349.
- Collins, J. and G. Jones. 2009. Differences in bat activity in relation to bat detector height: implications for bat surveys at proposed windfarm sites. *Acta Chiropterologica* 11:343–350.

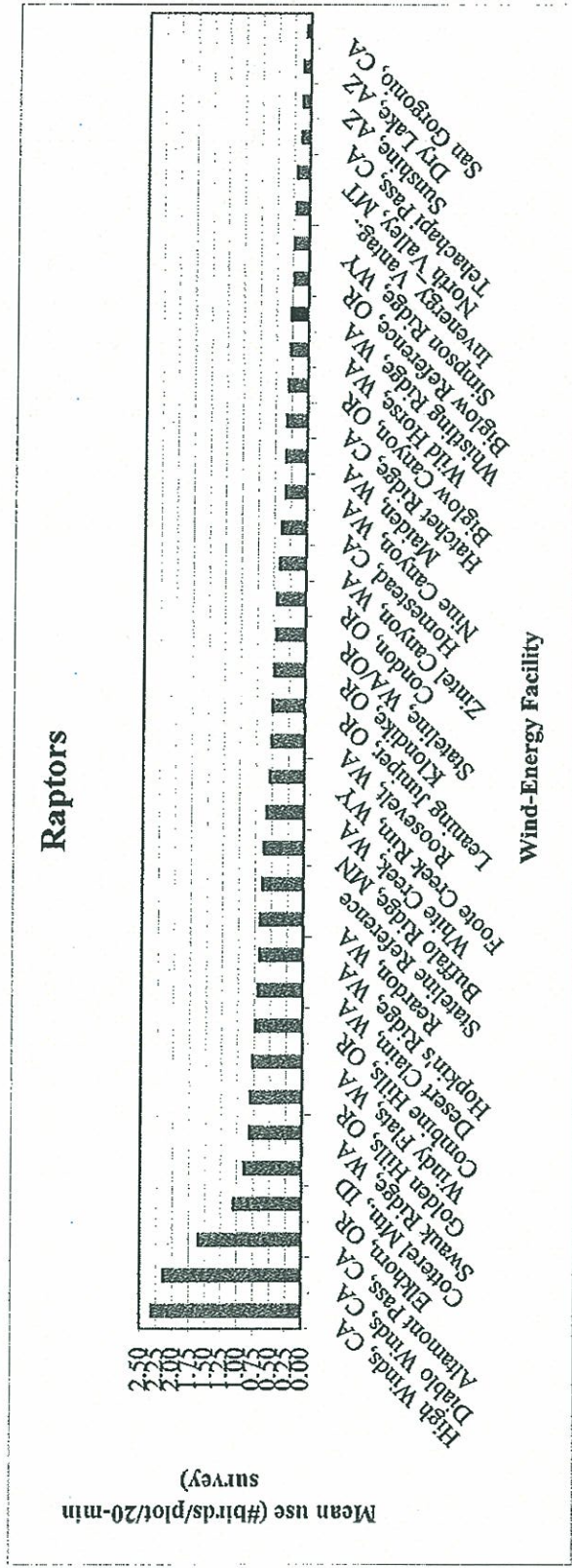


Figure 1. Comparison of annual raptor use between the Whistling Ridge Wind Resource Area and other US Wind Resource Areas

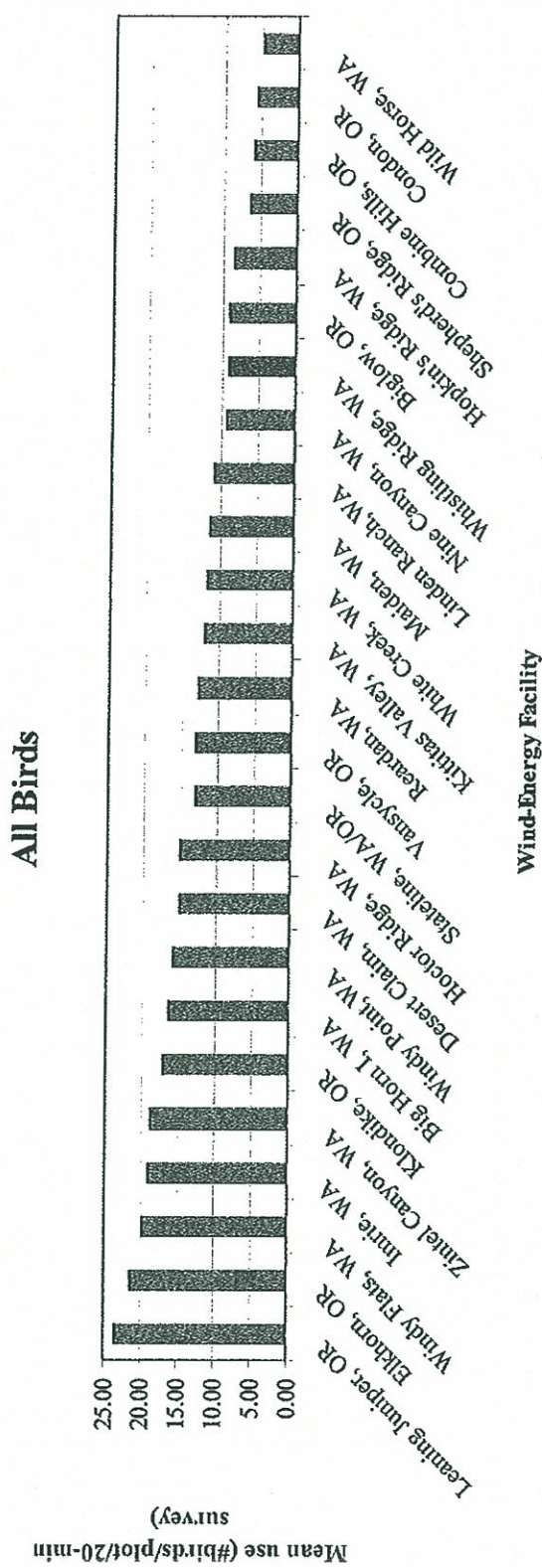
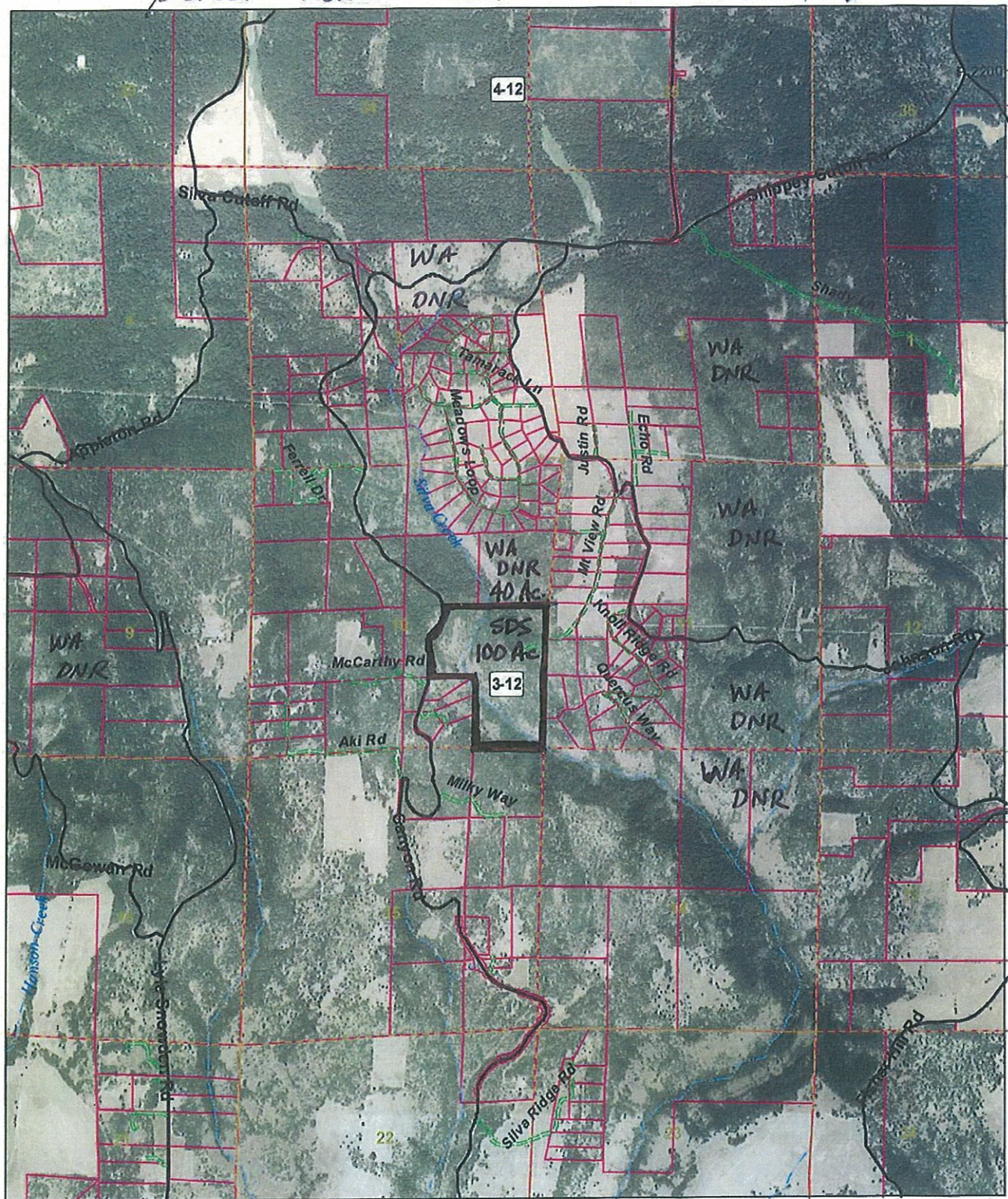


Figure 2. Comparison of all bird use between the Whistling Ridge Wind Resource Area and other Wind Resource Areas in the Pacific Northwest

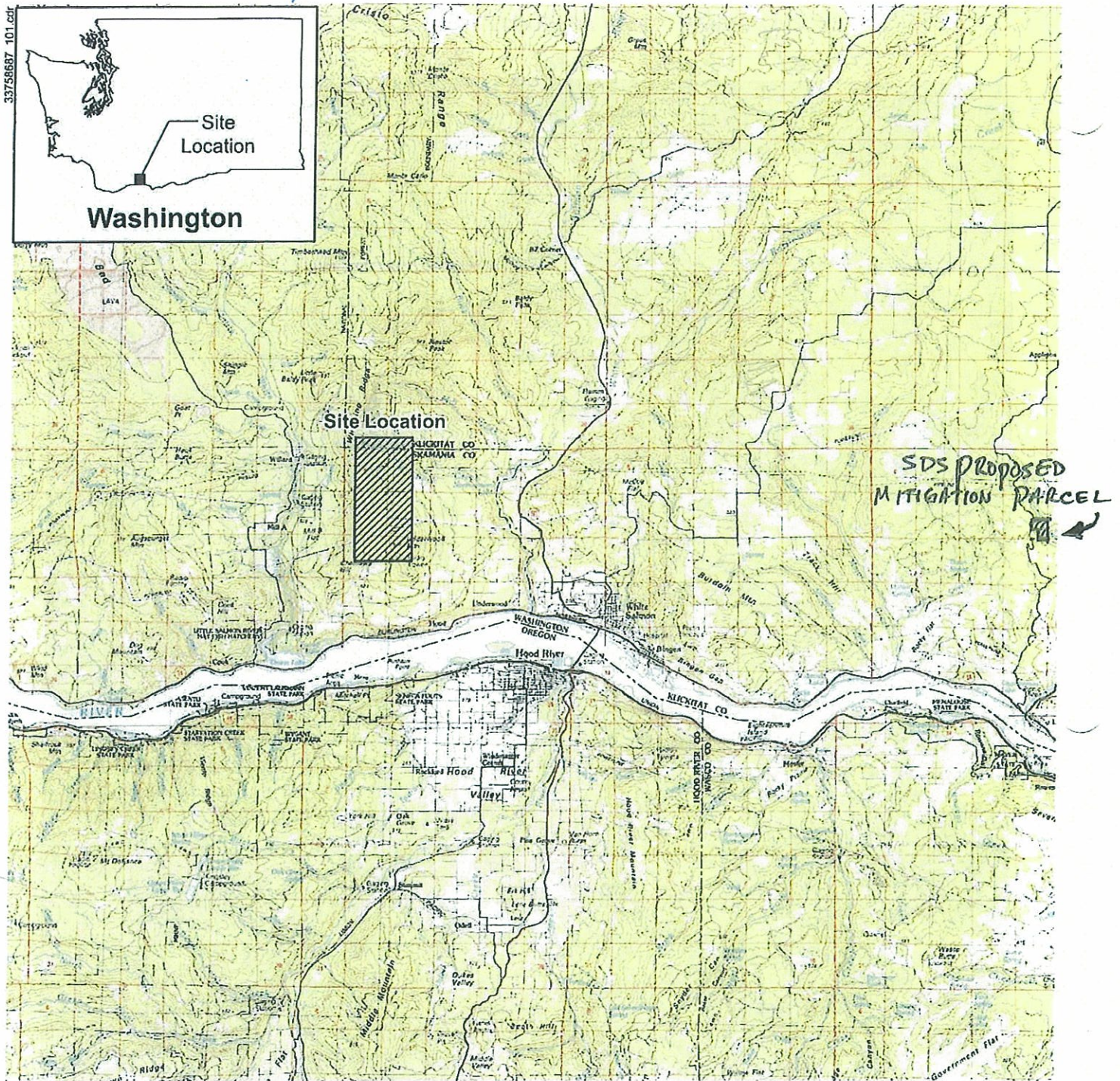
SDS PROPOSED MITIGATION PARCEL -
parcel viewer and DNR ownership



0 1,150 2,300 4,600 6,900
Feet

Source: KLUCKITAN County
parcel viewer/GIS

WREP VICINITY MAP



Source: USGS quad map, Hood River, Oregon-Washington, dated 1982.



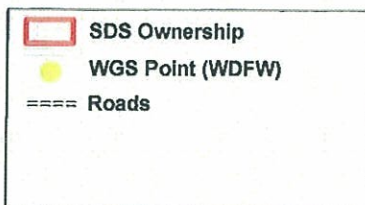
Approximate Scale in Miles

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Figure 2.1-1
**Location of Proposed
Whistling Ridge Energy Project**

Whistling Ridge Energy Project
Skamania County, Washington



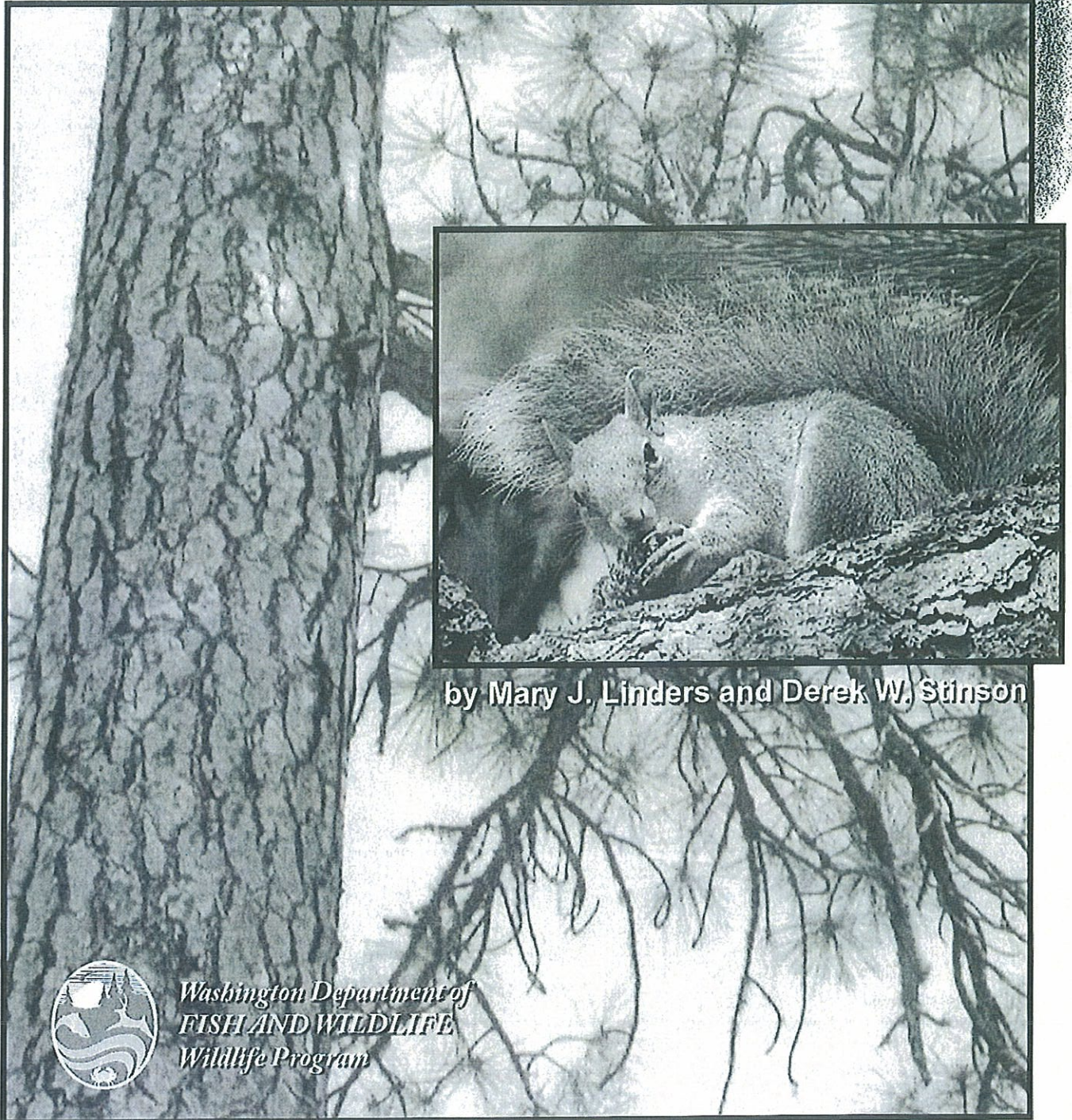
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STATE OF WASHINGTON

November 2007

Western Gray Squirrel Recovery Plan



by Mary J. Linders and Derek W. Stinson



Washington Department of
FISH AND WILDLIFE
Wildlife Program

FINAL Western Gray Squirrel Recovery plan AND SDS proposed MITIGATION PARCEL

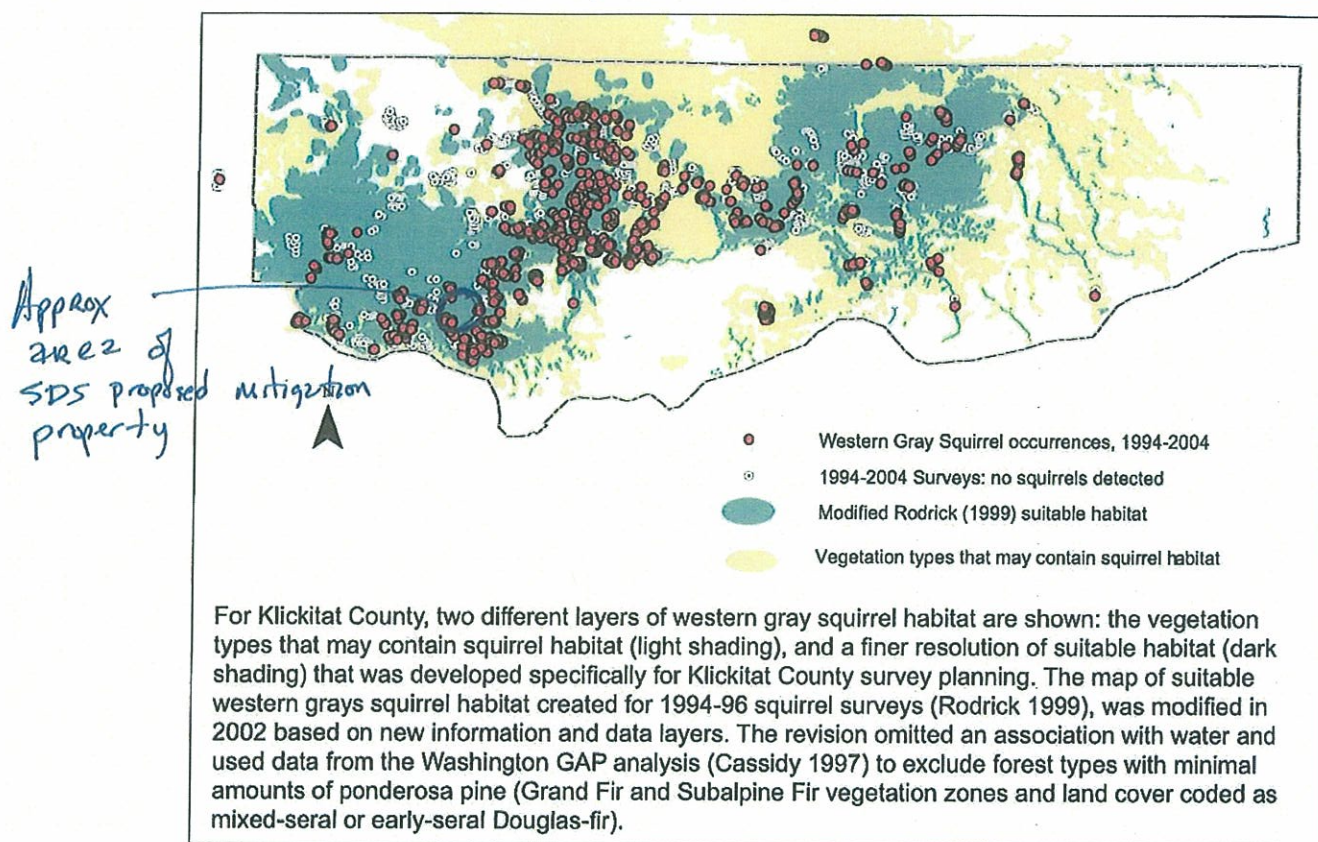


Figure 9. Results of western gray squirrel surveys in Klickitat County, 1994-2004.

shed administrative units, up from 12 known previously. In limited surveys prior to 1994, squirrels had been recorded in 68 $\frac{1}{4}$ $\frac{1}{4}$ sections; after the 1994-1996 surveys, squirrels were known to occur in 476 $\frac{1}{4}$ $\frac{1}{4}$ sections, a 7-fold increase in known occupied area (Rodrick 1999).

Even though some specific historic sites were no longer occupied, all watersheds known to be occupied prior to 1994 were still occupied by western gray squirrels during 1994-1996. More limited surveys continued from 1998 through 2002 as part of research activities and in response to forest practice applications. A total of 712 western gray squirrel surveys were conducted in Klickitat County and adjacent parts of Skamania County from 1994 to 2002 (WDFW data system). In 2002-2003, 11 sites in Klickitat County that were occupied by squirrels between 1995 and 1998 were resurveyed to determine if squirrels were still present. All sites contin-

ued to be occupied, but with some changes in the number of active or total number of nests.

Western gray squirrels occur in small, scattered groups on the Yakama Reservation in Yakima County. Surveys conducted in 1995 and 1998 found squirrels and/or nests on at least 10 sites in canyons and riparian areas in the central portion of the Reservation.

Okanogan. A total of 301 occurrences (133 squirrels and 164 nests) were reported in the Okanogan from 1994-2004 (Fig. 10). Many occurred on the north shore of Lake Chelan and in southwestern Okanogan County, particularly along French Creek, McFarland Creek, Squaw Creek, Black Canyon Creek, and Alta Lake. During 1995-1996, apparently suitable western gray squirrel habitat was sampled in a total of 69 sections with positive observations in 32 sections (46%) and negative results in 37 sec-

photographs
SDS proposed mitigation
parcel
page 1



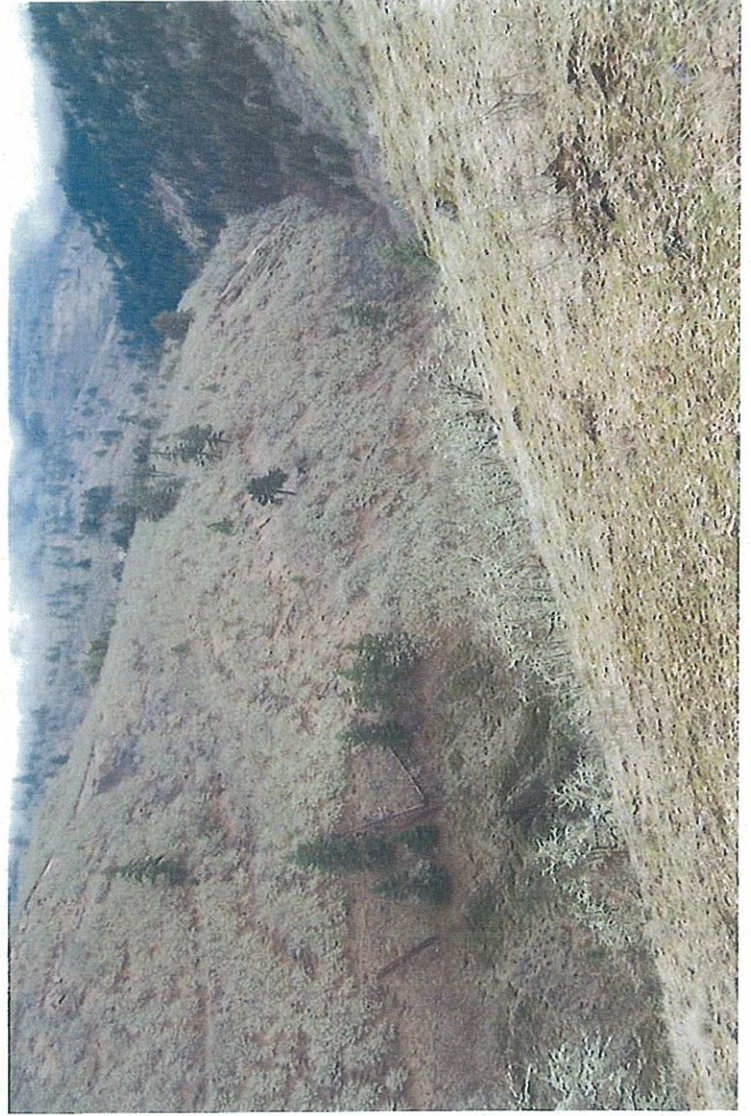
photographs
SDS proposed mitigation
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photographs
SDS proposed mitigation
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photographs
SDS proposed mitigation
parcel page 4